TREE PRESERVATION SPECIFICATIONS

1. GENERAL
 1.1. ALL MEASURES WILL BE REVIEWED AFTER INSTALLATION AND APPROVED BY OWNER AND *CITY OF ANNAPOLIS*.
 1.2. SUBSTITUTIONS OR ALTERNATIVE METHODS OR MATERIALS SHALL BE REVIEWED AND APPROVED BY THE PROJECT ARBORIST AND *CITY OF ANNAPOLIS*.
 1.3. ALL TREE PROTECTION MEASURES MUST BE IN PLACE PRIOR TO COMMENCEMENT OF DEMOLITION, SITE CLEARING OR CONSTRUCTION AND MAINTAINED THROUGHOUT CONSTRUCTION. TREE PROTECTION MEASURES MAY ONLY BE REMOVED WITH *CITY OF ANNAPOLIS* APPROVAL.
 1.4. REFER TO THE TREE PROTECTION ACTION KEY (TPAK) FOR SPECIFIC RECOMMENDATIONS FOR EACH TREE.
2. REMOVAL BY ARBORIST
 2.1. TREES DESIGNATED AS "REMOVAL BY ARBORIST" SHALL BE REMOVED BY A QUALIFIED ARBORIST "BY HAND", TO MINIMIZE POTENTIAL FOR DAMAGE TO REMAINING TREES AND ROOTS.
 2.2. CREWS SHALL BE DIRECTLY SUPERVISED BY A CERTIFIED ARBORIST.
 2.3. TRUCKS AND MECHANIZED EQUIPMENT SHALL NOT ENTER THE FENCED TREE PROTECTION AREAS.
 2.4. STUMPS SHALL BE LEFT IN PLACE OR GROUND OUT AT THE OWNERS DISCRETION. STUMPS IN TURF/LANDSCAPE AREAS OR WITHIN ROOT AERATION MATTING AREAS SHALL BE GROUND.
 2.5. STUMP GRINDING SHALL BE WITH SMALL MACHINES SPECIFICALLY DESIGNED FOR THAT PURPOSE. NO STUMPS SHALL BE EXCAVATED EXCEPT AS DESCRIBED HEREIN. STUMPS SHALL BE GROUND NOT MORE THAN 8" BELOW GRADE AND CARE MUST BE TAKEN TO MINIMIZE DAMAGE TO ROOTS OF RETAINED TREES.
3. TREE PROTECTION FENCE
 3.1. TYPICALLY, INSTALL AFTER ROOT PRUNING AND PRIOR TO CLEARING & GRADING.
 3.2. FENCE SHALL BE ONE OF THE FOLLOWING: (SEE DETAIL)
  3.2.1. 4' HIGH, 14 GAUGE WELDED WIRE FENCE MOUNTED ON 6' STEEL "T" POSTS SPACED NOT MORE THAN 10' APART. FENCE SHALL BE ATTACHED TO POSTS USING GALVANIZED STEEL CLIPS OR ALUMINUM TIES. PLASTIC "ZIP" TIES SHALL NOT BE USED.
  3.2.2. 6' HIGH CHAIN LINK FENCE FABRIC MOUNTED ON 8', 1.5"ø GALVANIZED STEEL PIPE LINE POSTS. CORNER POSTS SHALL BE 2"ø. FENCE SHALL BE ATTACHED TO POSTS USING ALUMINUM TIES. PLASTIC "ZIP" TIES SHALL NOT BE USED.
  3.2.3. SUPER SILT FENCE INSTALLED PER LOCAL AND STATE EROSION AND SEDIMENT CONTROL REQUIREMENTS AND SIGNED AS TREE PROTECTION.
 3.3. TREE PROTECTION AREA SIGNS SHALL BE AFFIXED TO ALL TREE PROTECTION FENCE AT 30' SPACING AVERAGE. SIGNS SHALL BE BILINGUAL (ENGLISH AND SPANISH). SIGNS SHALL NOT BE AFFIXED DIRECTLY TO TREES.
 3.4. SILT FENCE SHALL BE COORDINATED FOR INSTALLATION TO ENHANCE PROTECTION AND AVOID UNNECESSARY ROOT CUTS BY SILT FENCE INSTALLATION.
 3.5. FENCE MAY BE REMOVED ONLY AFTER ALL CONSTRUCTION AND FINAL LANDSCAPING IS COMPLETE AND WITH *CITY OF ANNAPOLIS* APPROVAL.
4. TEMPORARY TREE PROTECTION FENCE
 4.1. INTENDED TO PROTECT SENSITIVE AREAS DURING PORTIONS OF CONSTRUCTION. SPECIFICALLY, AREAS OF RAM SHALL BE PROTECTED WITH TEMPORARY FENCE UNTIL FILL MATERIAL IS PLACED TO AVOID UNNECESSARY ROOT IMPACTS.
 4.2. FENCE SHALL BE 4' HIGH, 14 GAUGE WELDED WIRE FENCE INSTALLED AS ABOVE (SEE DETAIL) OR APPROVED ALTERNATIVE.
 4.3. TEMPORARY FENCE SHALL BE REMOVED ONLY WITH ARBORIST APPROVAL.
5. ROOT PRUNE
 5.1. THE EXACT LOCATION AND DEPTH WILL BE DETERMINED DURING THE PRE-CONSTRUCTION MEETING. SPECIFIC EQUIPMENT & METHODS WILL BE DETERMINED BY *CITY OF ANNAPOLIS* BASED UPON DEPTH & TREE IMPACT. (SEE DETAIL)
 5.2. HAND PRUNE ROOTS OVER 1.5" DIAMETER WITHIN CRZS OF SIGNIFICANT TREES. STEEP SLOPES, DEEP EXCAVATIONS AND PAVEMENT/CURB REMOVAL WILL BE REVIEWED WHEN OPEN FOR HAND ROOT PRUNING DURING CONSTRUCTION.
 5.3. COORDINATE WITH SILT FENCE INSTALLATION TO MINIMIZE UNNECESSARY ROOT DAMAGE.
 5.4. ROOT PRUNING SHALL BE PERFORMED BY A CERTIFIED ARBORIST.
6. WOOD CHIP MULCH
 6.1. INSTALL MULCH BED RINGS FOR DESIGNATED SIGNIFICANT TREES OR PROVIDE CONTINUOUS MULCH STRIP 10' TO 15' WIDE ALONG LOD WITHIN PRESERVED CRZ AREAS.
 6.2. MULCH SHALL BE INSTALLED TO A DEPTH OF 4".
 6.3. MULCH SHALL BE DOUBLE GROUND SHREDDED HARDWOOD, AGED FOR AT LEAST 6 MONTHS FROM AN APPROVED SOURCE. INSUFFICIENTLY OR IMPROPERLY AGED MULCH CONTAINING HIGH BACTERIAL COUNTS OR HIGH LEVELS OF BARK OR OTHER MATERIALS RESISTANT TO DECOMPOSITION SHALL NOT BE USED. MULCH SHALL NOT CONTACT TRUNK OF TREES.
 6.4. EDGING IS NEITHER NECESSARY NOR DESIRABLE FOR THIS OPERATION.
7. CONSTRUCTION MONITORING/INSPECTIONS
 7.1. A CERTIFIED ARBORIST SHALL MAKE REGULAR MONTHLY INSPECTIONS DURING ACTIVE CONSTRUCTION AND DEMOLITION AND PROVIDE REPORTS TO THE OWNER AND *CITY OF ANNAPOLIS*. REPORTS SHALL DOCUMENT CONDITION OF TREE PROTECTION DEVICES AND PROVIDE RECOMMENDATIONS FOR MAINTENANCE AND/OR ADDITIONAL CARE.
8. MISCELLANEOUS TREE PROTECTION REQUIREMENTS
 8.1. NO TOXIC MATERIALS SHALL BE STORED WITHIN 100' OF TREE PROTECTION AREAS.
 8.2. ALL WORK IN OR NEAR TREE PROTECTION AREAS SHALL BE PERFORMED IN A MANNER TO MINIMIZE DAMAGE TO TREES, SHRUBS, GROUND COVER, SOIL AND ROOT SYSTEMS.
 8.3. MECHANIZED EQUIPMENT SHALL NOT BE PERMITTED TO ENTER ANY TREE PROTECTION AREAS.
9. CANOPY PRUNING & SUPPORT CABLES
 9.1. CANOPY PRUNING SHALL BE CLEANING PRUNING AND/OR RESTORATION PRUNING AND SHALL BE IN CONFORMANCE WITH CURRENT ANSI A300 STANDARDS AND ISA BEST MANAGEMENT PRACTICES.
 9.2. PRUNING SHALL REMOVE ONLY DEAD, DYING, DAMAGED OR BROKEN BRANCHES GREATER THAN 1" IN DIAMETER. PRUNING OF SMALL TREES MAY INCLUDE REMOVAL OF LIMBS TO IMPROVE STRUCTURE.
 9.3. FOLIAGE REMOVAL SHALL NOT BE MORE THAN 25% OF THE TOTAL LIVE CANOPY VOLUME OF ANY TREE IN ANY ONE SEASON. PRUNING SHALL NOT REMOVE INTERIOR BRANCHING EXCEPT AS OTHERWISE STATED.
 9.4. PRUNING FOR SPECIFIC CLEARANCE (FOR CONSTRUCTION ACCESS OR PROPOSED IMPROVEMENTS) SHALL BE REVIEWED AND APPROVED BY THE OWNER AND *CITY OF ANNAPOLIS*.
 9.5. SUPPORT CABLES SHALL BE INSTALLED IN CONFORMANCE WITH CURRENT ANSI A300 STANDARDS AND ISA BEST MANAGEMENT PRACTICES.
10. CONSTRUCTION STRATEGIES FOR TREE PROTECTION
 10.1. PROPOSED LANDSCAPE PLANTINGS OUTSIDE THE LOD SHALL BE INSTALLED BY HAND. MECHANIZED EQUIPMENT SHALL NOT BE USED OUTSIDE THE LOD OR OFF OF EXISTING PAVED AREAS TO EXCAVATE FOR PLANTINGS OR FOR STAGING PLANT MATERIAL.
 10.2. COORDINATE PLANTING LOCATIONS WITHIN CRZS WITH THE CONTRACT ARBORIST TO AVOID UNNECESSARY ROOT DAMAGE. PLANTING PITS WITHIN CRZS SHOULD BE DUG BY HAND. ROOTS GREATER THAN 1.5" SHOULD NOT BE CUT.
11. ROOT PROTECTION MATTING
 11.1. TEMPORARY MATTING TO PROTECT EXISTING ROOTS AND SOILS FROM PROPOSED SHORT TERM CONSTRUCTION TRAFFIC IMPACTS.
 11.2. TO PREPARE SITE, REMOVE ANY DEBRIS BY HAND AND SPREAD AN EVEN LAYER OF WOOD CHIP MULCH 8-12" THICK OVER THE ENTIRE AREA TO RECEIVE MATTING.
 11.3. MATTING SHALL BE INSTALLED IN A SINGLE LAYER ON MULCH.
 11.4. TOPSOIL SHALL NOT BE DISTURBED OR REMOVED. NO GRUBBING, GRADING, EXCAVATION OR EQUIPMENT TRAFFIC SHALL BE ALLOWED IN THE AREA TO RECEIVE RPM. EQUIPMENT MAY TRAVEL ON RPM AFTER IT IS INSTALLED, BUT SHOULD BE MINIMIZED. TRACKED EQUIPMENT SHOULD NOT TURN ON RPM TO AVOID DAMAGE.
 11.5. MATTING MATERIAL SHALL BE TENSAR ROADRAIN T-5 OR APPROVED EQUIVALENT.
 11.6. RPM SHALL BE INSTALLED BY A CERTIFIED ARBORIST.
 11.7. RPM SHALL NOT BE REMOVED BY SITE CONTRACTORS.
12. ROOT AERATION MATTING
 12.1. PERMANENT MATTING TO PROTECT EXISTING ROOTS AND SOILS FROM PROPOSED GRADE FILLS AND STRUCTURES.
 12.2. INSTALL A SINGLE LAYER OF MATTING ON EXISTING, UNDISTURBED GRADE. REMOVE DEBRIS BY HAND.
 12.3. TEMPORARY FENCING MUST BE INSTALLED IN THE AREAS TO RECEIVE RAM IF FILL IS NOT TO BE PLACED IMMEDIATELY AT THE BEGINNING OF CONSTRUCTION.
 12.4. TOPSOIL SHALL NOT BE DISTURBED OR REMOVED. NO GRUBBING, GRADING, EXCAVATION OR EQUIPMENT TRAFFIC SHALL BE ALLOWED IN THE AREA TO RECEIVE RAM. EQUIPMENT MAY TRAVEL ON RAM AFTER IT IS INSTALLED AND FILL MATERIAL PLACED, BUT SHOULD BE MINIMIZED.
 12.5. MATTING MATERIAL SHALL BE TENSAR ROADRAIN T-5 OR APPROVED EQUIVALENT.
 12.6. RAM SHALL BE INSTALLED BY A CERTIFIED ARBORIST.
 12.7. RAM IS PERMANENT AND SHALL NOT BE REMOVED BY SITE CONTRACTORS. FILL MATERIAL SHALL BE PLACED DIRECTLY ON RAM.
 12.8. FILTER FABRIC (SILT FENCE FABRIC) SHALL BE INSTALLED IN 2 LAYERS AS SHOWN IN THE DETAIL (NOT TRENCHED) TO PROTECT THE RAM CORE FROM CONTAMINATION. INSTALLATION OF SILT FENCE FOR EROSION CONTROL SHALL BE COORDINATED WITH THE ARBORIST AND MUST BE PERFORMED BY THE ARBORIST TO PREVENT DAMAGE TO TREE ROOTS FROM TRENCHING OPERATIONS. EROSION CONTROL SOCKS MAY BE USED IN LIEU OF SILT FABRIC.
13. SOIL CARE/ FERTILIZATION
 13.1. INITIAL SOIL TESTING WITHIN TREE PROTECTION AREAS IS REQUIRED. CONDUCT INDIVIDUAL SOIL TESTS FOR SEPARATE TREE PROTECTION AREAS (SMALL ADJACENT AREAS MAY BE TESTED TOGETHER). SOIL TEST SHALL BE A REPRESENTATIVE SAMPLE FROM EACH AREA.
 13.2. TREATMENTS TO THE TREE PROTECTION AREAS FOR SPECIFIED TREES (SEE TPAK) SHALL BE BASED ON THE RESULTS OF THE SOIL ANALYSIS. FERTILIZATION SHALL BE CONSISTENT WITH THE RECOMMENDATIONS OF THE ANSI A-300 (PART 2) TREE, SHRUB, AND OTHER WOODY PLANT MAINTENANCE - STANDARD PRACTICES (FERTILIZATION) 2004.
 13.3. APPLICATION RATES SHALL NOT EXCEED A RATE OF 1 POUND OF ACTUAL NITROGEN PER 1,000 SQUARE FEET ANNUALLY. FERTILIZER USED SHOULD INCLUDE HUMIC ACIDS, SOLUBLE SEAWEED EXTRACTS AND SOIL BIOLOGICAL INOCULANTS.
14. TREE CONDITION MONITORING INSPECTIONS
 14.1. CONTRACT ARBORIST SHALL PROVIDE MONITORING OF THE CONDITION OF RETAINED TREES IN TREE PROTECTION AREAS, AND TREATMENT OF DETRIMENTAL CONDITIONS (INSECTS, DISEASES, NUTRIENT DEFICIENCIES, SOIL MOISTURE, ETC.), AS THEY OCCUR, OR AS APPROPRIATE FOR EFFECTIVE MANAGEMENT.
 14.2. INSPECTIONS SHALL BE PERFORMED AT LEAST MONTHLY DURING THE GROWING SEASON, BEGINNING PRIOR TO CONSTRUCTION AND CONTINUING THROUGHOUT CONSTRUCTION AND FOR AT LEAST ONE YEAR SUBSEQUENT TO COMPLETION OF CONSTRUCTION ACTIVITIES.
 14.3. A WRITTEN SUMMARY REPORT INCLUDING SPECIFIC TREATMENTS MADE AND RECOMMENDATIONS FOR ADDITIONAL TREATMENTS SHALL BE PROVIDED TO THE OWNER AND PROJECT ARBORIST SUBSEQUENT TO EACH INSPECTION.
15. TREE GROWTH REGULATOR (TGR)
 15.1. PACLOBUTRAZOL SOIL APPLIED TREE GROWTH REGULATOR (CAMBISTAT® OR EQUIVALENT) SHALL BE APPLIED TO INDICATED TREES. APPLICATIONS SHALL FOLLOW MANUFACTURER'S LABEL AND APPLICABLE LAWS.
 15.2. TGR REDUCES CANOPY GROWTH WHICH CAN INCREASE FIBROUS ROOT SYSTEM GROWTH OVER 2-3 YEARS. THIS CAN INCREASE TOLERANCE TO DROUGHT STRESS AND IMPROVE ABSORPTION OF NUTRIENTS AND MOISTURE DURING THE STRESS RECOVERY PERIOD.
16. INVASIVE SPECIES CONTROL/HUMAN HEALTH RISK MANAGEMENT
 16.1. A CERTIFIED ARBORIST SHALL INSPECT TREE PROTECTION AREAS FOR INVASIVE AND/OR EXOTIC PLANT SPECIES. FINDINGS SHALL BE DOCUMENTED AND SUBMITTED TO OWNER.
 16.2. ANY INVASIVE SPECIES FOUND SHALL BE REMOVED/TREATED BY THE CONTRACT ARBORIST TO MINIMIZE THE SPREAD OF NON-DESIREABLE SPECIES. TREATMENTS AND REMOVAL METHODS SHALL CONFORM TO LOCAL, STATE AND FEDERAL REGULATIONS AND ACCEPTED INDUSTRY STANDARDS. REFER TO ISA BEST MANAGEMENT PRACTICES. A TREATMENT PLAN SHALL BE DEVELOPED AND SUBMITTED TO OWNER AND *CITY OF ANNAPOLIS*.
 16.3. INVASIVE VINES SHALL BE HAND CUT AWAY FROM ALL RETAINED TREES.
 16.4. OWNER SHALL REMOVE FROM TREE PROTECTION AREAS, ALL DEBRIS THAT MAY POSE A HUMAN HEALTH RISK (SUCH AS METAL, WIRE OR GLASS). ANY OTHER CONDITION FOUND TO BE A POTENTIAL RISK SHALL BE REPORTED TO THE OWNER FOR FURTHER MANAGEMENT.

ADDITIONAL NOTES:

1. *TREE LOCATIONS MAY BE APPROXIMATE. OWNER AND CONTRACT ARBORIST SHALL VERIFY ALL TREE LOCATIONS AND CONDITIONS PRIOR TO CONSTRUCTION AND/OR TREATMENT OR REMOVAL.*
2. *PRE-CONSTRUCTION MEETING SHALL BE HELD PRIOR TO COMMENCEMENT OF DEMOLITION/CONSTRUCTION ACTIVITY. CITY OF ANNAPOLIS, OWNER, DESIGN TEAM MEMBERS (PROJECT ARBORIST, LANDSCAPE ARCHITECT, ENGINEER AND ARCHITECT), CONTRACT ARBORIST, SITE AND LANDSCAPE CONTRACTORS SHALL ATTEND.*
3. *THE INSPECTION OF THESE TREES CONSISTED SOLELY OF A VISUAL INSPECTION FROM THE GROUND. WHILE MORE THOROUGH TECHNIQUES ARE AVAILABLE FOR INSPECTION AND EVALUATION, THEY WERE NEITHER REQUESTED NOR CONSIDERED NECESSARY OR APPROPRIATE AT THIS TIME.*
4. *TREES RATED "POOR" OR "DEAD" THAT ARE NOT RECOMMENDED FOR REMOVAL DUE TO CONSTRUCTION IMPACT MAY WARRANT FURTHER EVALUATION AND/OR TREATMENT OR REMOVAL.*

Definitions

- Certified Arborist: Credential of an individual arborist issued and administered by the International Society of Arboriculture. This credential must be current and valid to qualify to use the copyrighted designation of "Certified Arborist". Refer to www.isa-arbor.com for additional information.
- Project Arborist: Arboricultural firm contracted to provide site investigation and documentation (tree inventories, assessments, forest stand delineations, etc.) and develop tree preservation plans, methods, details and specifications in collaboration with the project design team.
- Contract Arborist: Arboricultural firm contracted to implement the approved tree preservation plans on site. All crews conducting arboricultural operations on site shall consist of at least one Certified Arborist who directly oversees all work by that crew. Arboricultural operations include, but are not limited to, pruning, tree protection device installation and maintenance (fence, matting, etc.), root pruning, air tool root excavation/exploration, soil care activities, soil testing, mulch application, tree inspections, pesticide/chemical applications and tree removal.

State of Maryland
Forest Conservation Manual

Preliminary Forest Conservation Worksheet

for
Primrose Hill
7/1/13

	Net Tract Area		**ENTIRE PROPERTY**
A	Gross Tract Area	A =	4.37
B	Deductions (Critical Area, area restricted by local ordinance or program): floodplain	B =	0.00
C	Net Tract Area (C = A - B)	C=	4.37
	Land Use Category		**High Density**
	Afforestation Factor ($F_{afforest}$)		15.00%
	Conservation Factor ($F_{conservation}$)		20.00%
D	Afforestation Threshold (Net Tract Area x $F_{afforest}$)	D =	0.66
E	Conservation Threshold (Net Tract Area x $F_{conservation}$)	E =	0.87
	Existing Forest Cover		
F	Existing Forest Cover within the Net Tract Area	F =	0.00
G	Area of Forest Above Conservation Threshold	G =	0.00
	If existing forest cover (F) > conservation threshold (E),		
	then G = existing forest cover (F) - conservation threshold (E); otherwise G = 0.		
	Break Even Point		
H	Break Even (Amount of Forest that must be retained so that no mitigation is required)	H =	FALSE
	(1) If the area of forest above the conservation threshold (G) is greater than zero, then		
	H = (0.2 x the area of forest above conservation threshold (G)) + Conservation threshold (E)		
	(2) If the area of forest above the conservation threshold (G) = 0, then H = ex. Forest Cover (F)		
I	Forest clearing permitted without mitigation (I = existing forest cover (F) - break even point (H))	I =	0.00
	Proposed Forest Clearing		
J	Total area of forest to be cleared	J =	0.00
	Clearing above conservation threshold		0.00
	Clearing below conservation threshold		0.00
K	Total area of forest remaining (K = existing forest cover (F) - forest to be cleared (J))	K =	0.00
	Note: If forest to remain (K) is greater than or equal to break even point (H), then no planting is		
	required; otherwise, compute the planting requirement below (L, M, N, P, Q and R).		
	Planting Requirements		
L	Reforestation for clearing above the conservation threshold	L =	0.00
	(1) If the total area of forest to be retained (K) ≥ conservation threshold (E), then		
	L = the area of forest to be cleared (J) x 0.25; or		
	(2) If the forest to be retained (K) < conservation threshold (E), then		
	L = the area of forest above conservation threshold (G) x 0.25		
M	Reforestation for clearing below the conservation threshold	M =	0.00
	(1) If existing forest cover (F) > conservation threshold (E) and forest to be retained (K) <		
	conservation threshold (E), then M = 2.0 x (E - K)		
	(2) If the existing forest (F) ≤ conservation threshold (E), then M = 2.0 x forest to be cleared (J)		
N	Credit for retention above the conservation threshold	N =	0.00
	If the area of the forest to be retained (K) > conservation threshold (E), then N = K - E		
P	Total reforestation required (P = L + M - N)	P =	0.00
Q	Total afforestation required	Q =	0.66
	(1) If existing forest cover (F) < afforestation threshold (D), then		
	Q = the afforestation threshold (D) - the existing forest cover (F)		
R	Total planting requirement (R = P + Q)	R =	0.66

Note: Refer to sheet LJ-104 for tree replacement claculations. Future forest conservation areas may be required overtop existing and replacement tree areas.

TREE PROTECTION ACTION KEY (TPAK)

Tree #	DBH (Diameter at 4.5 feet above grade)	Common Name	Botanical Name	Age Estimate	Condition Rating %	Condition Rating	Approx Canopy Radius (FT)	CRZ Critical Root Zone Radius in Ft (1.5 ft radius/in DBH)	Removal	Removal By Arborist	Recommended Preservation Measures: Root Prune	Tree Protection Fence	Mulch	Year 1 Soil Care	Year 2 Soil Care	Year 3-5 Soil Care	Tree Growth Regulator	Tree Condition Inspections	Temp Root Protection Matt	Root Aeration Matting	Construction Oversight/Monitoring	"By Hand" Demolition	Canopy Prune	Comments	Additional Notes	Condition Notes
2	52	beech, European	*Fagus sylvatica*	*111*	63	Fair	45	78			X	X	X	X	X	X	X	X		X	X		X	RESTORATION PRUNE	Damaged, rotting trunk; copper cultivar, significant upper crown decline in 1 half, needs restoration prune, air layered limb, large trunk decay on declining side, english ivy at base, frass,	Large DW (3"+), Trunk Decay, Broken Limbs, Mechanical Damage,
3	42	pecan	*Carya illinoinensis*	*105*	67	Fair	40	63			X	X	X	X	X	X	X	X			X		X		large broken leader (14")	Large DW (3"+), Broken Limbs, Vines,
4	36	pecan	*Carya illinoinensis*	*90*	53	Fair	28	54			X	X	X	X	X	X	X	X		X	X			INSPECT CAVITY	Trunk cavity at base, further inspection required	One Sided, Trunk Decay, Basal Decay,
10	22	elm, spp.	*Ulmus spp.*	*50*	59	Fair	28	33	X																Some crown dieback; 23, 8, crown decline\thin crown,	Large DW (3"+), Vines,
13	28	maple, red	*Acer rubrum*	*78*	63	Fair	27	42	X																Some vine cover (English ivy)	Large DW (3"+), Broken Limbs, Weak Union, Vines,
18	25	pine, eastern white	*Pinus strobus*	*63*	58	Fair	21	38			X	X	X	X				X			X		X		poor vigor, thin crown	Large DW (3"+), Broken Limbs, Stressed, Vines,
19	29	oak, willow	*Quercus phellos*	*62*	70	Good	34	44			X	X	X	X				X			X		X			Full Crown, Large DW (3"+), Vines,
20	21	maple, red	*Acer rubrum*	*58*	41	Poor	25	32		X															Broken leader	Broken Limbs, Weak Union, Serious Decline,
25	27	oak, pin	*Quercus palustris*	*57*	70	Good	30	41		X																Large DW (3"+), Weak Union, Vines,
28	27	oak, willow	*Quercus phellos*	*57*	70	Good	30	41			X	X	X	X	X		X	X			X		X		Some vine cover (English ivy)	One Sided, Vines,
29	31	oak, willow	*Quercus phellos*	*66*	70	Good	30	47			X	X	X	X	X		X	X			X		X		Vine cover (English ivy) & broken limbs	One Sided, Large DW (3"+), Vines,
43	35	pecan	*Carya illinoinensis*	*88*	66	Fair	40	53			X	X	X	X	X	X	X	X	X	X	X					One Sided, Weak Union, Vines,
44	20	pecan	*Carya illinoinensis*	*50*	70	Good	22	30			X	X	X	X	X			X	X		X					One Sided, Suppressed,
45	38	pecan	*Carya illinoinensis*	*95*	72	Good	38	57			X	X	X	X	X	X	X	X	X	X	X					Full Crown, Vines,
46	31	pecan	*Carya illinoinensis*	*78*	63	Fair	25	47			X	X	X	X	X	X	X	X	X	X	X		X		Lightning strike; broken limbs	One Sided, Broken Limbs, Vines, Mechanical Damage,
50	25	locust, black	*Robinia pseudoacacia*	*66*	44	Poor	20	38	X																Severe crown dieback, broken limbs	Weak Union, Serious Decline,
56	45	boxelder	*Acer negundo*	*79*	44	Poor	35	68	X																Trunk cavity/ large decay area, crown dieback, vine cover	Trunk Decay, Branch Decay, Stressed, Vines,
59	25	elm, American	*Ulmus americana*	*54*	70	Good	33	38			X	X	X	X	X	X	X	X			X	X	X			Full Crown, Vines,
63	34	pecan	*Carya illinoinensis*	*85*	70	Good	34	51			X	X	X	X	X			X			X		X			Trunk Decay, Broken Limbs, Vines,
92	38	cherry, black	*Prunus serotina*	*95*	47	Poor	40	57	X																Twin with weak crotch, crown dieback, heavy vine cover, broken limbs	Large DW (3"+), Vines,
94	28	cherry, black	*Prunus serotina*	*70*	56	Fair	25	42	X																Leaning, vine cover (English ivy)	Vines, Overhead Utility,
112	28	cherry, black	*Prunus serotina*	*70*	48	Poor	20	42	X																Leaning, crown dieback, broken limbs	Large DW (3"+), Root Damage/Decay, Vines, Overhead Utility, Excessive Lean,
118	24	maple, red	*Acer rubrum*	*67*	56	Fair	18	36	X																Vine cover (English ivy)	Large DW (3"+), Trunk Decay, Vines, Overhead Utility,

DRAWN: C.J.H.	REV. NO. 0
DESIGN: C.J.H.	
CHECKED: C.A.C.	

BASED ON PLANS PROVIDED BY BAY ENGINEERING

REV.	DATE	COMMENT	BY

STATE OF MARYLAND LICENSED FORESTER NO. 666 DAVID A. ZEITLIN BOARD OF FORESTERS

DAVEY® RESOURCE GROUP
A Division of The Davey Tree Expert Company
Land Development Solutions
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PRELIMINARY FOREST CONSERVATION PLAN

PRIMROSE HILL

3 MILKSHAKE LANE
CITY OF ANNAPOLIS, MARYLAND

CLIENT: ELM STREET DEVELOPMENT

SCALE 1" = 30'
DATE: 07/02/2013
SHEET NO: LJ-102

Y:\2012\Milkshake Lane\dwg\DRG\DRG_Milkshake_TP_2013.07.02_fcp.dwg, 7/3/2013 11:27:09 AM, HulseC, HP Designjet Z5200ps PCL3.pc3, ARCH D (landscape), Davey Resource Group, Land Development Solutions